



Helpful Hints

for Successful 1-to-1 Computing

By Paul Wurster

Neighboring school districts in Oregon share suggestions for how to implement a successful 1-to-1 laptop program.

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In the book, *1-to-1 Learning: Laptop Programs That Work*, author Pamela Livingston begins with an important point for those who are considering a laptop program for the first time: Newcomers are fortunate to be able to learn from the educators who have started down the 1-to-1 road before them. (*Editor's note:* Find a link to Livingston's book and other resources on p. 17.)

That proved to be true for two neighboring school districts in Oregon that took the time to survey what some other schools were doing. Now that the districts have new 1-to-1 programs of their own, they are quickly gaining the perspective their predecessors had.

Eugene School District 4J, one of Oregon's larger school systems at approximately 18,000 students, introduced a laptop program at two of its 40 schools this year. Howard Elementary now has a 1-to-1 program for grades 3–5 and a 2-to-1 laptop program for grades K–2. Kelly Middle School, the school fed by Howard, will move from one mobile cart per class to a 1-to-1 program next year, and then North Eugene High School will get a 1-to-1 program. The three-year plan is designed to expand in step with the students.

Kimberley Ketterer, instructional technology specialist for 4J and a columnist for *L&L*, says the district's laptop program was introduced as part of a larger initiative that aims, in time, to integrate technology across the entire curriculum and across all grades. It includes the infusion of various technologies, such as electronic white boards, digital cameras, microscopes, and graphic tablets.

"An articulated scope and sequence is in process, so that teachers and students can move between schools and grades and be comfortable knowing the technology skill level and integration experience across the board," says Ketterer.

Springfield's initiative, which costs approximately \$300,000 annually, includes software subscriptions, teacher training, a wireless network, insurance, on-site support, and a lease agreement with Apple Computer for iBooks.

Buy-in

A key component to this approach is teacher buy-in. Before adding technology, Ketterer says that it is important to have total teacher buy-in throughout a building, including a technology leadership team that represents each grade level. The next step is to help teachers become comfortable with technology in their classrooms.

Eugene offered district-wide workshops and brought in mobile labs. Custom on-site training was also part of the plan.

"It doesn't have to be laptops. It could be USB microscopes, it could be a smart board, it could be an iPod. It can be a lot of technologies," Ketterer says. "It is a philosophical shift in their minds that they have to make about how kids are different kinds of learners now."

As the teachers became more familiar with the concept of teaching with technology, their enthusiasm began to grow and that began to fuel the use of technology.

"Then it starts to drive itself because teachers want to learn more and will eventually drive the use of technology," Ketterer says.

Visiting other schools that use technology is also essential. Ketterer says that it was important for their teachers to visit other districts with technology initiatives because it gave them a chance to see how others were using technology in the classroom.

"We got to actually talk to people who could give us real classroom examples," Ketterer says.

Having decided to use the Macintosh platform for its laptop program, 4J asked Apple Computer if they knew

of other districts in the region that had a technology plan in action. Apple recommended they visit Shoreline School District in Washington.

Shoreline also had a similar long-term vision for its technology plan—an important consideration when deciding which district to visit because there are so many ways to introduce technology in school.

"They had a plan for K–12 and they also had professional development up front before anything was in place. And they also saw the importance of giving teachers laptops and training before they even started infusing tons and tons of technology with the kids," Ketterer adds.

Springfield School District, located in Springfield, Oregon, first started exploring the feasibility of 1-to-1 computing back in 2003. After two years of planning that included a partnership with Apple, Springfield launched a program at its middle school level. The Springfield Teaching and Reaching Through Technology initiative (STARTT) put a laptop in the hands of every student in Springfield Middle School (340 total) and became, at that time, the first initiative of its kind in the public school systems of Oregon. There were mobile labs and 2-to-1 programs in place, but none gave students access to a laptop around the clock.

Springfield's initiative, which costs approximately \$300,000 annually, includes software subscriptions, teacher training, a wireless network, insurance, on-site support, and a lease agreement with Apple Computer for iBooks. The district, which serves 11,000 students, has made a four-year commitment to the pilot program.



With a positive evaluation, the district will be looking for ways to fund an expansion of the program into other schools.

Now in its second school year of operation, the program appears to be running smoothly, and with lessons learned along the way, the future looks bright for STARTT. Eva La Mar, Springfield's program development specialist, says that there have been challenges along the way, but approaching the project with a sense of flexibility has helped Springfield Middle School find quick solutions to unforeseen challenges.

Staff Development

Training has become an important component of the STARTT initiative. The district uses site-based staff development to provide training throughout the year. The school offers online and face-to-face options, just-in-time skills-based courses, summer work-

shops and staff development days lead by Apple representatives.

"If you don't have your staff on board with policies—from how to use the server ... to great ideas for implementing the technology to differentiate your curriculum—you are going to have huge problems," La Mar says.

The school dedicates 45 minutes each morning to staff training led by the technology integration specialist, teachers, and outside professionals. These are mini lessons designed to show teachers how various software can be used to help students achieve and for differentiating and imple-

menting strategies for students who are at risk. It also provides work time or collaboration time to produce something that can be used in the classroom.

However, there are hazards to watch out for in staff development, according to La Mar. For example, be careful about offering training on a specific tool if the technology won't be immediately available for teachers to use. Springfield had Apple provide a workshop on how to use iMovie, a movie creation program, but digital camcorders were not available right after the workshop. By the time camcorders ar-

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rived, teachers had forgotten much of the training because they were unable to put that training to immediate use.

"If you are going to say, 'Use this conduit,' make sure you have enough [technology] for people to easily share," La Mar says. "If you contract with people to do training, make sure they are training for equipment you have."

Ketterer says that having a long-term training plan is a good way to ensure the effective use of technology in the classroom. Eugene schools that are considering infusing more technology are encouraged to develop a plan for professional development that spans two to three years. Computers for teachers and projectors are among the first purchases, so that staff members get used to using their own computer during trainings and workshops, at home and at school.

"The teachers not only have to learn how to integrate the applications, but they have to learn to integrate the applications into their curriculum," says Ketterer. "In other words, new strategies and methods for teaching and learning that they didn't learn when they were originally trained to be teachers."

Tech Support

Both Springfield and Eugene arranged for on-site tech support. In addition to support from the district's networking department, each of Eugene's schools hired a technical support person and an instructional technology coach. Springfield also has a combination of district-level support and a tech person on-site.

To manage technical problems, La Mar says that it is important to come up with a course of action for common computer and software issues before they happen.

"You have to know who to go to, so one of the things that I did was create a huge guide—you have a printer problem, you flip to the printer prob-

lem page. I also have a matrix of what kind of problem and to whom that problem goes," she says.

Developing a capacity within the school for tech support is helpful. Giving teachers enough training to troubleshoot basic problems on their

own and harnessing the tech savvy of the students will make a difference.

"Take the older students, give them some training and then they can troubleshoot a lot of the basic problems. It takes that problem off the teacher," says La Mar. "I picked out

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When teachers are involved in the selection of software, the programs are likely to be a better fit in the classroom and the teachers are more likely to integrate them into their curriculum effectively.

two students who often had behavior problems at school, but targeted them thinking that it would be good to put them in a leadership position, and they are wonderful.”

Deciding ahead of time who provides tech support for laptops, printers, wireless networks, and servers is a given, and making sure everyone knows what type of repairs they are allowed to perform is imperative.

“The question is who fixes all these problems? Are students allowed to reset PMU and PRAM? Are students allowed to reseat a wireless card? Who can do what, when, and where is important for all to know,” La Mar says. “A common problem is that the wireless card pops out of place if the laptop is carried improperly. Do we let the kids go in there? Well, if they go in there, it could violate the warranty.”

Software

Most laptops are bundled with a variety of software, but they may not have the ideal selection of programs for every subject in school. Getting the teachers involved in the selection of key software is an important consideration, according to La Mar. When teachers are involved in the selection of software, the programs are likely to be a better fit in the classroom and the teachers are more likely to integrate them into their curriculum effectively.

“I think this is a big one. We spent a lot of money on software and some of the software is not functional for us. We are finding ways around it, but that was a pitfall for us. We found some wonderful software, but we still had some frustration,” La Mar says. “We bought some that we were encouraged to buy, and we found out that the reading level was two to three grade levels above our kids.”

The primary goal of Springfield’s laptop initiative was to use technology as a means to increase student performance. Springfield Middle School is a Title I school that has suffered a high

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mobility rate in the past. The hope also was to bridge the technology gap between different socioeconomic groups in the community.

That made the need for functional differentiation and solid assessment a must. Part of how Springfield meets this need is through the use of programs such as KidBiz3000 and Master in Motion.

"We are able to obtain lexile levels on our students through the Kid-Biz3000 online program, assign non-fiction reading assignments to the entire class or by topic of interest per students, and the material is delivered to the student at each student's individual reading level," La Mar says.

Master in Motion allows teachers to access student achievement data and use it to drive assessment. Teachers are able to monitor student progress, measure growth according to standards, and can make special assignments according to student weaknesses.

Conclusion

There are many ways to implement and manage a 1-to-1 laptop program, but most will agree that there is just one way to prepare for one—as thoroughly as possible. The good news is

that there has never been a better time to learn more about implementing effective laptop programs.

Resources

- A Day in the Life: <http://www.evalamar.com/DayinLife>
- Barrios, T. (2004). *Laptops for learning: Final report and recommendations of the Laptops for Learning Task Force*. University of South Florida, Educational Technology Clearinghouse: <http://etc.usf.edu/L4L>.
- Howard Elementary School: <http://www.4j.lane.edu/schools/elementary/howard.html>.
- Levin, H. (2005). Laptops Unleashed: A High School Experience. *Learning & Leading with Technology*, 31(7), pp. 6–11
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- Springfield Middle School: <http://www.sps.lane.edu/schools/maps/sprngmmmap.htm>.
- Springfield Teaching and Reaching Through Technology (STARTT): <http://www.sps.lane.edu/STARTT>.
- Technology Integrated into Learning and Teaching (TILT, Eugene School District 4J): <http://www.4j.lane.edu/tilt>.



Paul Wurster is the assistant editor for L&L and ISTE's journals—the Journal of Research on Technology in Education (JRTE) and the Journal of Computing in Teacher Education (JCTE).

He has seven years of experience in journalism.

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